FY 2002-03
BIOSOLIDS MANAGEMENT PROGRAM
and
EMS PERFORMANCE REPORT

City of Fort Worth, Texas
Water Department
Village Creek Wastewater Treatment Plant

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BIOSOLIDS MANAGEMENT PROGRAM
PERFORMANCE REPORT

SUMMARY

The City of Fort Worth is currently in the process of implementing a new management system for its biosolids program called the Biosolids Environmental Management System (EMS). The City has completed the initial steps of the EMS implementation process and drafted an EMS Guidance Manual, following established guidelines and best management practices outlined by the National Biosolids Partnership (NBP), and believes it is ready to begin the six-month operating period prior to undergoing an independent third party certification audit.

The City will be requesting an EMS Status Review in the near future.

The EMS Status Review involves an evaluation, by the NBP and the NBP Account Executive (CH2MHill), of the City's EMS with respect to the NBP EMS program requirements. Based on the results and recommendations of the status review, the Water Department will make any required changes, if necessary, and declare the EMS operational and begin the process of seeking independent third-party certification.

A requirement of the EMS program is to provide a Biosolids Management and EMS Annual Performance Report (APR) that is available to interested parties. This report summarizes the City's biosolids program performance for fiscal year 2002-2003.

The APR summarizes the biosolids management program, biosolids production and reuse, goals and objectives, EMS activities, public outreach and commitment toward continual improvement. This report and other details on the different biosolids activities are detailed on our website,
http://www.fortworthgov.org/water/Wastewater/emsbiosolids.htm

SECTION 1
Biosolids Management Program Summary

Annual report period from August 1, 2002 to July 31, 2003

Registration/Permit Number: **TPDES #10494-013**
Class A Authorization Facility No.: #**720001**
Transporter No.: **#21942** (Renda Environmental Inc.)

AMOUNT of biosolids beneficially reused/recycled: **36,427** dry tons / year
AMOUNT of biosolids beneficially reused/recycled: **33,046** ***metric*** tons / year

PERCENTAGE of biosolids beneficially reused/recycled: **100%**

TYPE of biosolids produced: **Class A (100%)**

Biosolids Production
The City of Fort Worth produces biosolids at the Village Creek Wastewater Treatment Plant (VCWWTP). In FY 2002-2003 , Village Creek produced approximately 36,427 dry tons of biosolids.

During the past year the Fort Worth Biosolids Beneficial Reuse Program continued to provide our customers, the citizens of Fort Worth and our 23 Customer Cites, landowners, farmers, adjacent landowners and the general public, with processed, stabilized, environmentally safe Class A, Exceptional Quality (EQ) biosolids.

100% of the biosolids that the Village Creek Wastewater Treatment Plant produces are anaerobically digested, dewatered by belt filter press to produce a cake product that is 25% to 28% solids, and post-lime stabilized after dewatering to achieve the highest biosolid quality recognized by EPA - **Class A, Exceptional Quality (EQ)** biosolids.

The Biosolids Beneficial Reuse program continues to grow and expand and is positively accepted by the general public and adjacent landowners around our application sites. The Fort Worth Biosolids Program continues to have a 60-90 day "back-log" list of landowners who desire biosolids fertilization.

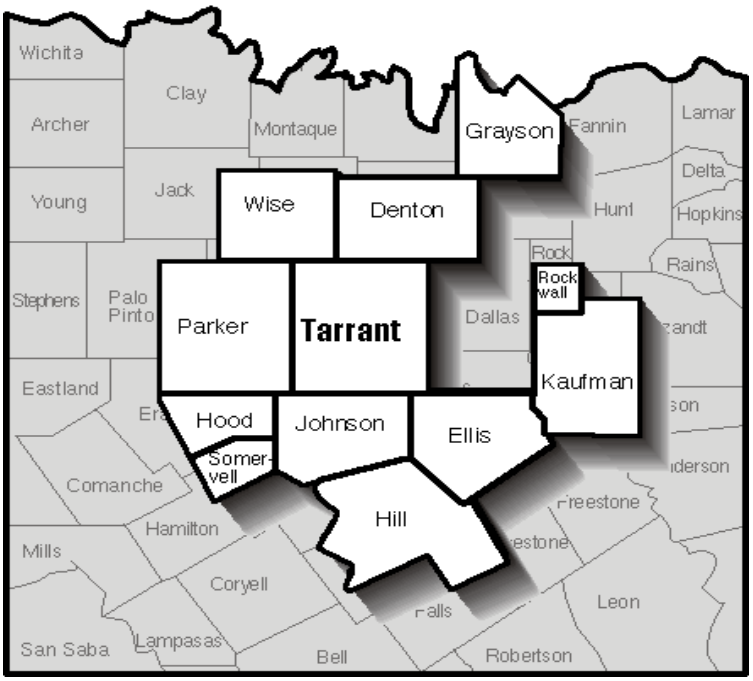
Beneficial Reuse Options and Management Practices

Since 1995, the City continued to maintain its 100% beneficial reuse of biosolids program.

One hundred percent (100%) of the Class A biosolids produced at Village Creek Wastewater Treatment Plant were properly processed, monitored and agronomically land applied to thousands of acres of farmland and pasture land in Tarrant and surrounding counties in the North Texas area, to provide excellent soil fertilization and nutrient value to crops and grasses.

The map and table below, shows the landowner participation by county in the Fort Worth beneficial reuse of biosolids program.

FY 2002-2003
FORT WORTH BIOSOLIDS "BENEFICIAL REUSE" PROGRAM
LAND OWNER PARTICIPATION



FORT WORTH WATER DEPARTMENT "BENEFICIAL RECYCLING" of CLASS "A" BIOSOLIDS PROGRAM					
Counties	**Land-Owners**	**Noticed Sites**	**Noticed Acres**	**TOTAL Acres**	**(%) of Total Acreage**
Denton	7	7	1,875	1,875	2.75%
Ellis	0	0	0	0	0.00%
Grayson	0	0	0	0	0.00%
Hill	11	18	3,297	3,297	4.84%
Hood	9	11	4,251	4,251	6.24%
Johnson	50	55	15,791	15,791	23.18%
Kaufman	0	0	0	0	0.00%
Parker	15	26	25,555	25,555	37.51%
Rockwall	0	0	0	0	0.00%
Somervell	0	0	0	0	0.00%
Tarrant	**22**	**38**	**10,614**	**10,614**	**15.58%**
Wise	19	22	6,740	6,740	9.89%
TOTAL 12	**133**	**177**	**68,123**	**68,123**	**100%**

Goals and Objectives

The City has established goals and objectives for biosolids management and EMS. The following goals and objectives are tracked and monitored by the VCWWTP biosolids management group and the biosolids manager:

- Maintain 100% beneficial reuse of biosolids
- Produce 100% Class A biosolids
- Comply with all federal, state and local regulations
- Implement a biosolids EMS
- Manage the biosolids program in an environmentally sound, socially acceptable, and cost-effective manner.

Contractor Performance

The City currently has one environmental contractor; Oscar Renda Construction Inc. (ORC) that continued to provide and is responsible for (1) further processing (dewatering by belt-filter press), (2) stabilization (3) transportation and (4) beneficially reusing the biosolids produced at VCWWTP by land application under a "Long-Term" contract with the City of Fort Worth.

During the past year, an internal ORC company policy, in which divisions within ORC were more clearly defined, resulted in a name change to RENDA ENVIRONMENTAL INC. for the contractor division that operates under the City of Fort Worth biosolids contracts and associated environmental programs. Attached is a copy of the contractor's new Logo:

RENDA ENVIRONMENTAL

Renda Environmental Inc. is in compliance with all local, state, and federal requirements and monitors and tracks the amount of biosolids applied, and the crops planted and harvested. REI is also enhancing public relations by currently developing a "newsletter" detailing biosolids items and issues that will be published and mailed quarterly to all current landowners. REI also conducts tours of the biosolids facility and at application sites when requested. The Water Departments Biosolid Management performs unannounced site visits and inspections to ensure that the contractor is following best management practices concerning biosolids transportation and land application.

Monitoring and Measurement Results

FREQUENCY of Monitoring/Analysis:	(a) Fecal Coliform	weekly
	(b) Pathogens	monthly
	(c) Metals	monthly
	(d) PCBs	monthly
	(e) TCLP	annually

METHOD of Class A Pathogen Reduction Requirement Alternative used (30 TAC 312.82(a): ___**4**___

METHOD of Vector Attraction Reduction Requirement used (30 TAC 312.83(b)(1-8): _Alternative__**6**___

By City contract, an outside certified laboratory analyzes the biosolids produced at Village Creek Wastewater Treatment Plant. In addition, the Water Department's certified Central Laboratory also analyzes biosolids.

Samples of biosolids are taken from the process areas and analyzed for metals, PCBs, pathogens and vector attraction. Samples are taken daily, weekly, monthly, or per the frequency established by the federal, state, and local legal reporting requirements.

Ten metals are analyzed monthly and all metal concentrations were below Table 1 ceiling concentration limits and Table 3 pollutant concentrations as required by the U.S. EPA Part 503 federal regulations for the use or disposal of sewage sludge (see metals result table below). No PCBs were detected in the biosolids at VCWWTP in FY 2002-2003.

Metal Concentration

YEAR **2002-2003**	Ar	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	Pathogen Requirement Achieved	Pathogen Reduction Alternative Used	Vector Attraction Reduction Alternative Used	PCB
	mg/kg	mg/kg	Mg/kg	mg/kg	Mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				mg/kg
NPDES Permit Limits (TABLE 1)	75	85	3000	4300	840	57	75	420	100	7500	n/a	n/a	n/a	n/a
NPDES Permit Limits (TABLE 3)	41	39	***	1500	300	17	***	420	36	2800	n/a	n/a	n/a	n/a
Average Metals Concentration	**0.5**	**0.8**	**10.7**	**76.7**	**7.1**	**0.04**	**5.9**	**4.4**	**2.01**	**160**	**Class A**	**4**	**6**	**ND**

*** No limit established by federal regulations

Pathogen Reduction requirements were met, by having the sludge analytically tested to ensure that the density of fecal coliform is less than 1,000 Most Probable Number per gram of total solids (dry weight basis) which meets the Part 503 compliance requirement. The biosolids were analytically tested to ensure that the density of enteric virus in the sewage sludge is less than on Plaque-forming Unit per four grams of total solids (dry weight basis) and that the density of viable helmith ova in the sewage sludge is less than one per four grams of total solids (dry weight basis) which meets the Part 503 compliance requirements.

Vector Attraction Reduction requirements were met, by the pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali, shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours, which meets the Part 503 compliance requirements.

SECTION 2
Environmental Management System (EMS) Performance Summary

The development and establishment of an Environmental Management System (EMS) for the Fort Worth Biosolids Program continued to make progress.

The consultant firm, Halff and Associates Inc., was awarded a contract in December 2002 to assist the Water Department in development and completion of the EMS manual and to assist the Water Dept. in the internal and 3rd Party external audits of the EMS in the coming year.

The EMS "Guidance Manual" is in its final draft.

The City notified the National Biosolids Partnership Account Executive (CH2MHill) in September 2003 and requested a "Biosolids EMS Status Review". This step in the process is guidance to assess whether the EMS is "operational" and determine the level of conformance of the EMS with the NBP EMS Elements.

Renda Environmental Inc. has been very proactive and is fully committed in "partnering" with the City of Fort Worth (VCWWTP) in the development and establishment of an Environmental Management System (EMS) for the Fort Worth Biosolids Program. REI has electronically and physically updated their filing systems and SOP's to conform to the EMS elements and guidelines.

SECTION 3
Legal Requirements Summary

On September 27, 2002, Village Creek Wastewater Treatment Plant received the "renewed" TPDES Permit No. 10494-013. The permit shall expire on September 1, 2006. The following changes were made in the permit:

1. Sludge Provisions
    a. Distribution and marketing of sludge is prohibited.
    b. Land application of class B sludge is prohibited.
2. Biomonitoring Requirements
    a. Chronic biomonitoring frequency using the water flea was increased from quarterly to monthly from April through September.
    b. Them maximum effluent dilution concentration was reduced from 97% to 96%, with other dilutions changed accordingly.
3. Pretreatment Provisions
    a. The local limit requirements were updated.
    b. Monitoring frequency for toxics in the influent and effluent increased.

On March 24, 2003, Village Creek Wastewater Treatment Plant received a *Class A Authorization Number (#720001)* from the Texas Commission on Environmental Quality (TCEQ) for Class A sewage sludge activities. This authorization number will be used in all future sewage sludge/biosolids correspondence with TCEQ.

SECTION 4
Spills and Other Emergency Actions & Responses Summary

No spills occurred in process or in transportation this period.

SECTION 5
Public Outreach and Participation Program Summary

A main requirement of the City's EMS is to further develop and expand public outreach and public participation programs. The City and our Contractor (REI) continued to reach out and inform the general public on biosolids, biosolids processing, biosolids stabilization, land application, biosolids fertilization and the development of an EMS using best biosolids management practices for the Fort Worth Biosolids Program.

Together and separately, the City and REI participated in local outreach events and programs, see listing below, providing updated brochures, literature and information on the Fort Worth biosolids beneficial reuse program, biosolids EMS program and biosolids literature in general.

PUBLIC RELATIONS & PARTICIPATION
In Local Events

The City of Fort Worth Biosolids Program has and is an active participant in a number of local events that promote and educate the public on Environmental issues:

LOCAL EVENTS		
Texas Recycles Day	Annually in November	X
Fort Worth Home and Garden Show	Annually in March	**X**
Earth Week	Annually in April	
Neil Sperry Garden Show	Annually in February	**X**
Earthworks	Grapevine, Texas	
Waterfest (Water Department Open House)	Annually in May	**X**
Trinity River Awareness Day	Annually in September	X
Cowtown Air	Annually in May	**X**
MayFest	Annually in May	X

Plant tours and land application site tours were conducted. In 2002-2003, twenty-four (24) plant tours and (4) land application site tours were conducted. Approximately 1,300 individuals visited and toured the plant.

Formal presentations to varied groups (citizens, schools, Colleges, regulators, WEF, WEAT, TWUA, other City Departments, engineers etc.) were presented on the Fort Worth Biosolids reuse and recycling Program and on the implementation of the Biosolids EMS.

As part of the Biosolids EMS, the City expanded its public outreach program to include various media. A biosolids EMS website was established on the City's internet site to promote information sharing in a timely manner.

In addition, the Fort Worth Star Telegram "City Page" is available in public outreach efforts to provide correct, reliable information to the public and solicit feedback from interested parties and stakeholders.

SECTION 6
Future Plans / Advances in Biosolids Technology

The City will continue to improve its Biosolids EMS. Improvements and changes will be made to the system based on legal requirements, environmental impacts, and input received from the public.

The City will strive to continue its 100 percent biosolids beneficial reuse program that is cost-effective and publicly accepted.

Since 1995, the City is committed to producing exceptional quality (EQ) Class A biosolids. In order to maintain a Class A, EQ biosolids product the City will periodically review operating procedures and parameters to continuously improve and optimize pretreatment and treatment plant processes.

In addition, the Water Department will begin to look at the future possibility and feasibility of using excess heat from new turbines installed at the plant in 2002 to dry or pelletize a portion of the plants sludge production.

SECTION 7
Contact Information

If you have comments on the report or any other biosolid related items please call 817-392-4960.

To find out more information about the City of Fort Worth Biosolids Program and the Biosolid EMS program you can access the Biosolids website at:

http://www.fortworthgov.org/water/Wastewater/emsbiosolids.htm